

# TMK ENERGY LIMITED (ASX:TMK)

**Accelerating Development of  
Mongolia's Largest Natural  
Gas Resource**

**NOOSA CONFERENCE  
PRESENTATION**

**Dougal Ferguson**  
Chief Executive Officer

15 November 2024



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**COMPETENT PERSON'S STATEMENT** The information in this document that pertains to the estimates of Contingent Resources and Prospective Resources for the Gurtvans XXXV CSG Project have been taken from a report provided by Netherland, Sewell & Associates (NSAI) on 3 November 2022 and 16 August 2021, undertaken on behalf of the Company. The resources included in the report have been prepared using definitions and guidelines set forth in the 2018 Petroleum Resources Management System (PRMS) approved by the society of Petroleum Engineers (SPE). The resources information included in this report are based on, and fairly represents, information and supporting documentation compiled by Mr. John Hattner, an employee of NSAI. Mr Hattner is a Qualified Petroleum Reserves and Resources Evaluator (QPRRE) and is qualified in accordance with the requirements of ASX Listing Rule 5.41 and consents to the inclusion of the information in this report of the matters based on this information in the form and context in which it appears.

The Resources were independently estimated by NSAI as of 31 October 2022. The Contingent Resources are classified in three categories of 1C, 2C and 3C based on the level of confidence that NSAI has with respect to the recoverability of gas from both the Upper Coal Seam package and Lower Coal Seam package that were intersected in the five well Snow Leopard drilling program and have been calculated by NSAI using deterministic methods.

The Prospective Resources have been determined by NSAI using probabilistic methods and are dependent on a CSG discovery being made. If a discovery is made and development is undertaken, the probability that the recoverable volumes will equal or exceed the unrisks estimated amounts is 90 percent for the low estimate, 50 percent for the best estimate, and 10 percent for the high estimate. The risks 1U, 2U, and 3U Prospective Resources have been aggregated by arithmetic summation; therefore, these totals do not include the portfolio effect that might result from statistical aggregation.

For further details on the Resource estimates presented in this report, refer to the 9 November 2022 ASX announcement. The company is not aware of any new information and that all material assumptions and technical parameters underpinning the Resources estimate continue to apply and have not materially changed.

# INVESTMENT OPPORTUNITY

Low risk, low cost, world-class natural gas resource in energy hungry Asia



**TMK funded** to demonstrate **commerciality** with **six production wells** to be online in the coming weeks

Significant new **strategic high net worth shareholder** introduced with approximately 9% ownership

**Largest** natural gas **Contingent Resource (2C)** in Mongolia of **1,214 BCF** within core Nariin Sukhait area (60km<sup>2</sup>)

Material **exploration upside** outside of core area with further **5,300 BCF Prospective Resource** (risked 2U) over total area (~8,400 km<sup>2</sup>)

Experienced **Australian and Mongolian** management team with high ownership and strong local relationships.

Mongolia **energy short** and seeking clean, domestically sourced energy – domestic markets are **hungry for gas**

**Strategically located** close to Chinese border, energy market and gas pipeline infrastructure (**West-East Gas Pipeline**)

**Immediate market** of **35–70MW** of power demand at **adjacent coal mines** currently sourced from China

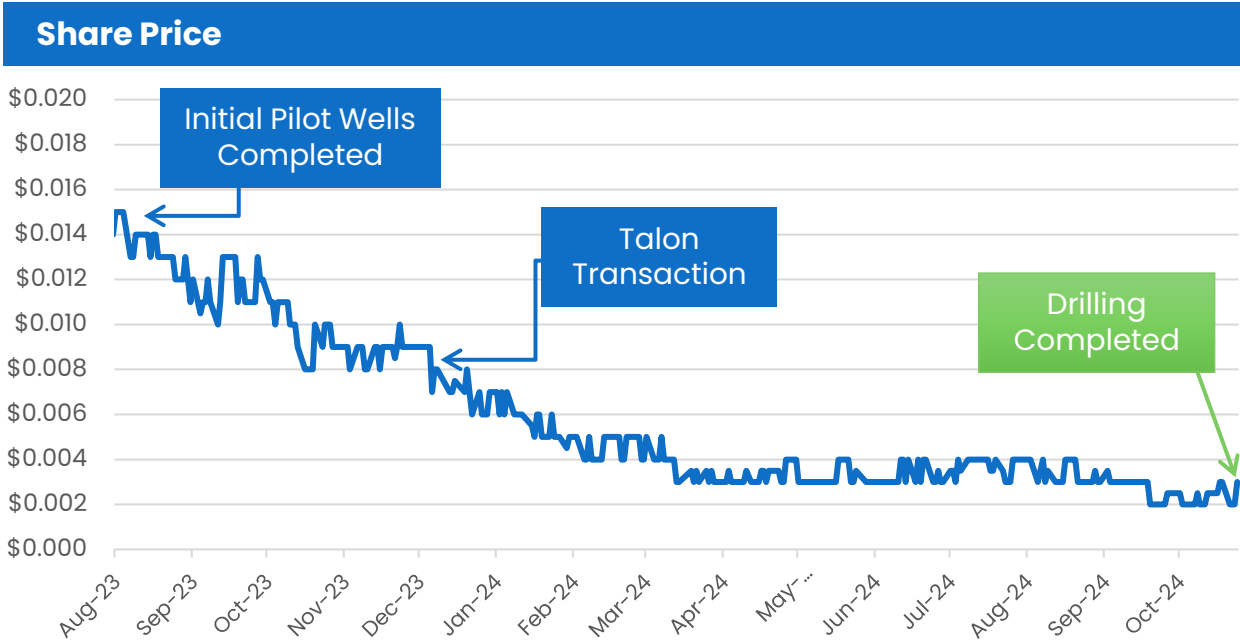
**Significant environmental approvals received** allowing active work programs to be undertaken in **2024 and beyond**

Material **cost saving initiatives** underway **reducing cash burn** and improving operational efficiencies

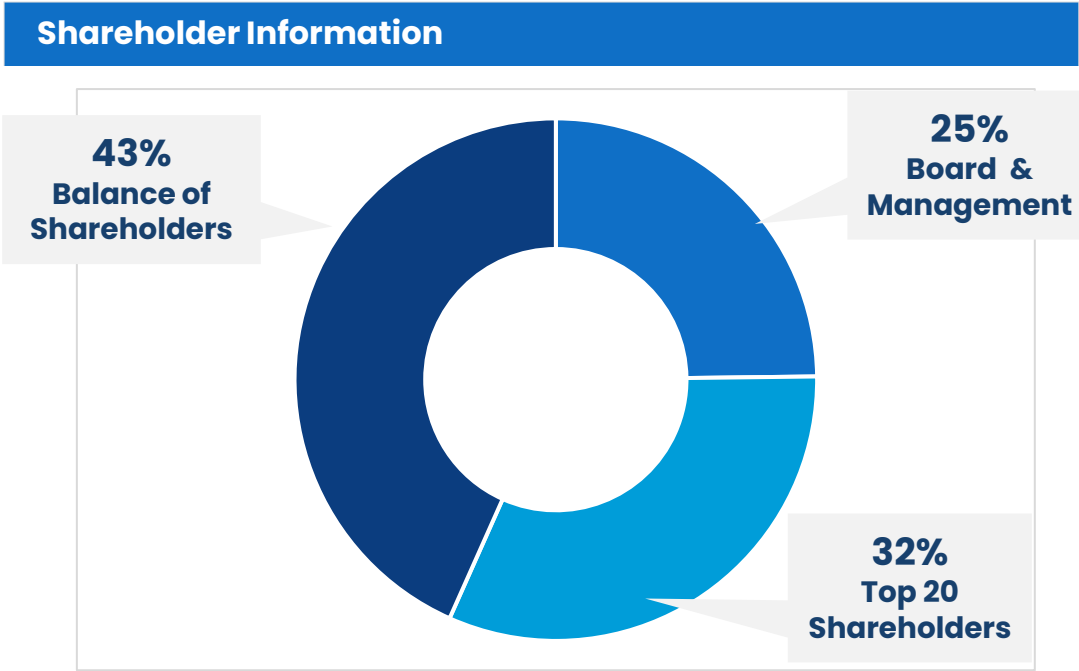
# CORPORATE SNAPSHOT

**Goal:** To build a Mongolian gas industry on the back of the largest discovered contingent gas resource in the Country

**Strategy:** Add value for shareholders through initial proof of concept, conversion of resources to reserves and introduction of development/funding partners



TMK Energy Limited (as of 14 November 2024)	
Share Price	\$0.002
Market Capitalisation	~\$18.6m
Shares on Issue (ASX:TMK)	~9,325m
Listed Options (ASX:TMKO)	~1,732m
Listed Options (ASX:TMKOB)	~808m
Unlisted Options / Performance Rights (m)	158m / 43m
Pro-forma cash (post drilling)	~\$2.5m
Enterprise Value	~\$16.1m





# BOARD & MANAGEMENT



**John Warburton**  
Non-Executive Chairman

- Geoscientist with 40+ years global energy experience in conventional and unconventional petroleum discovery, development and business growth.
- 14 years of senior technical and leadership roles at BP, Executive General Manager for Exploration and New Business at Eni in Pakistan, and Chief of Geoscience & Exploration Excellence at Oil Search Ltd.
- Non-Executive Director of Empire Energy Group (ASX:EEG) and Director of Empire's Northern Territory subsidiary, Imperial Oil & Gas Pty Ltd and CEO from 2011 to 2014.
- Former Non-Executive Director of Senex Energy in the six years before takeover by POSCO/Hancock Prospecting.



**Brett Lawrence**  
Executive Director

- Experienced oil and gas executive, with 19+ years of diverse experience in the industry including both ASX-listed and private companies, with a track record of developing new venture opportunities and growing early-stage businesses.
- Worked with Apache Energy for over 8 years performing roles in drilling engineering, reservoir engineering, project development and commercial management.
- Master of Petroleum Engineering, a Bachelor of Engineering (Mining) and Bachelor of Commerce (Finance) from Curtin University in Western Australia.



**Tim Wise**  
Non-Executive Director

- Corporate executive experienced in the growth of early stage businesses and providing strategic advice to a broad range of companies.
- Founder and CEO of The Tap Doctor and Kalina Power (ASX:KPO).
- Currently a Non-Executive Director at Environmental Clean Technologies (ASX:ECT), entX Limited and Firesafe.



**Gema Gerelsaikhan**  
Non-Executive Director  
(Mongolia Based)

- 10+ years in marketing across several sectors
- Former Director of Communications / Marketing at Shangri-La Hotel, Ulaanbaatar.
- Former Chief Marketing & Business Development Officer of Asia Pacific Investment Partners (APIP) (Singapore & Hong Kong).
- Former Business Analyst at SouthGobi Resources (TSX:SGQ & HKEx: 1878).
- Founding member of various Mongolian Chambers of Commerce
- Master's and Bachelor's degree in Economics and Business Administration from Denmark.



**Dougal Ferguson**  
Chief Executive Officer & Company Secretary

- Experienced energy executive with significant senior internationally based roles in London and Hong Kong.
- Initiated and executed multiple domestic and international transactions over 30 years with focus on small to medium scale E&P companies.
- Former Managing Director of ASX listed energy exploration companies XCD Energy Limited (ASX:XCD) and Elixir Energy Limited (ASX:EXR), with prior senior roles at ARC Energy.
- Graduate Member of the AICD and qualified as a Corporate Secretary and CPA.



**Brendan Stats**  
Gurvantes XXXV  
Project Manager

- Geologist with 20 years of experience in the resources industry.
- Bachelor of Science (BSc, Geology (hons)) from the University of Melbourne.
- Significant international experience and expertise in coal and coal seam gas projects located within the South Gobi basin.



**Tsetsen Zantav**  
Chairman – Telmen  
Resources LLC  
(Mongolia Based)

- Founding Director and Chairman of Telmen Resources LLC, the 100% owned subsidiary of TMK Energy Limited.
- Awarded the Polar Star by order of the President of Mongolia for his contribution to the low-income housing development in Nalaikh District.



**Naran-Uchral Tsedev**  
Mongolian Country Manager  
(Mongolia Based)

- Joined Telmen Resource in 2022 as Finance Manager and local CFO
- Appointed Country Manager of Telmen Resource in 2024 and is actively leading efforts in developing the Gurvantes XXXV Coal Seam Gas Project in the South Gobi Basin of Mongolia.
- board member at several leading companies in Mongolia, including two listed on the Mongolian Stock Exchange (MSE).



# **Gurvantes XXXV CSG PROJECT**

South Gobi Desert, Mongolia

# OVERVIEW:

## GURVANTES XXXV NATURAL GAS PROJECT



<b>Location</b>	South Gobi Basin, Mongolia
<b>Description</b>	Production Sharing Contract (PSC) / Exploration License
<b>Size</b>	~8,400km <sup>2</sup>
<b>TMK Interest</b>	100%
<b>Status</b>	Exploration and Appraisal
<b>Markets</b>	<ul style="list-style-type: none"> <li>High local demand for energy in South Gobi</li> <li>Growing domestic gas market opportunities</li> <li>~400km from the existing West-East gas pipeline in northern China</li> </ul>
<b>Natural Gas Resources*</b>	1.2 TCF (2C) – Nariin Sukhait (60km <sup>2</sup> ) 5.3 TCF (2U) – Exploration Upside (8,400km <sup>2</sup> )

\*Independently certified by Netherland, Sewell & Associates (NSAI) on behalf of the Company



Map showing location of TMK's Gurvantes XXXV CSG Project

# IMMEDIATE ACTIVITY AND CATALYSTS

Successfully executed 2024 drilling program targeting high value outcomes leading to significant increase in activity in 2025 and beyond



## STRATEGIC FOCUS

### 2024

#### STRATEGIC GOALS

- Demonstrate commercial production rates achievable through acceleration of reservoir depressurisation
- Significantly de-risk the asset and provide clear pathway to future gas production and development

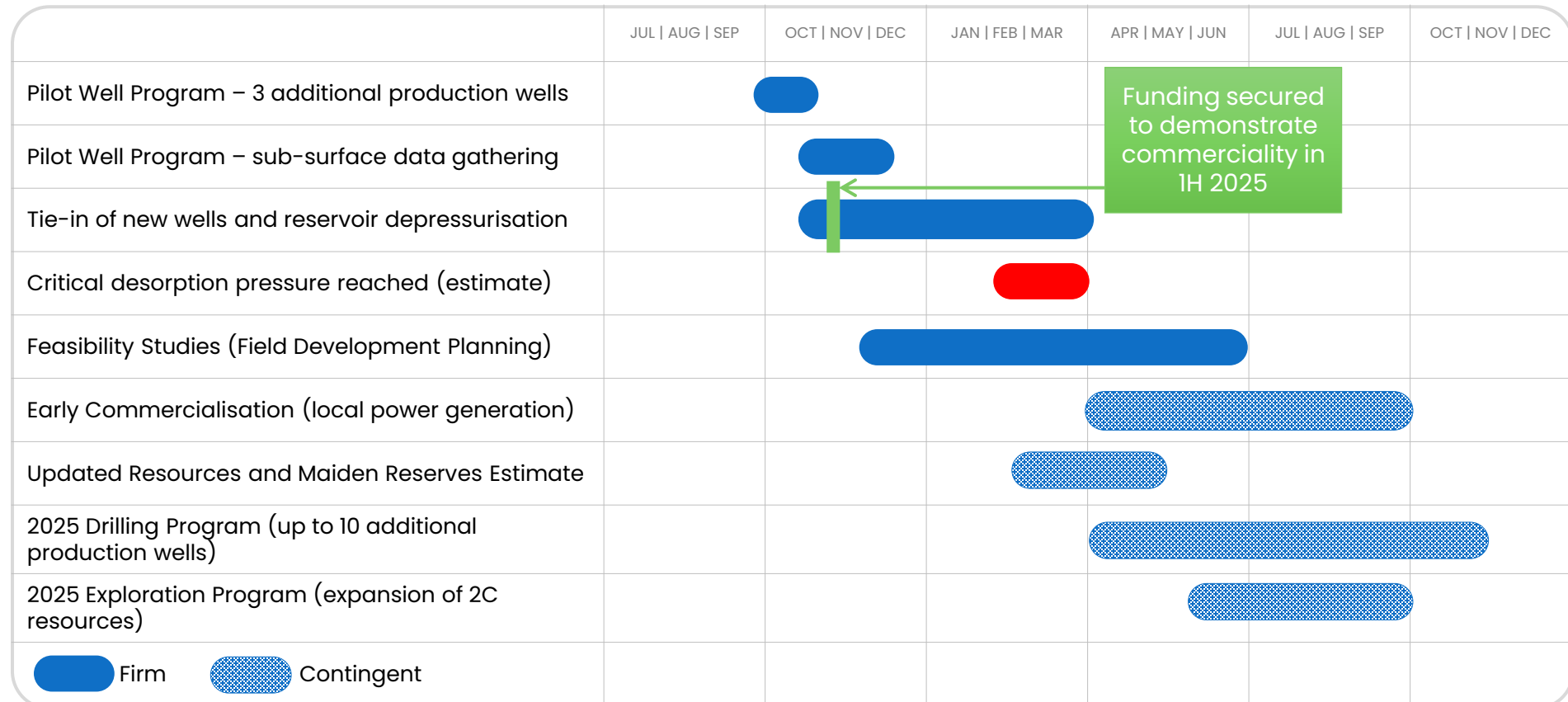
### 2024

#### WORK PROGRAM

- Drill an additional three infill production wells within existing core area using existing infrastructure
- Gather additional data to refine future appraisal and development drilling

## 2024 H2

## 2025



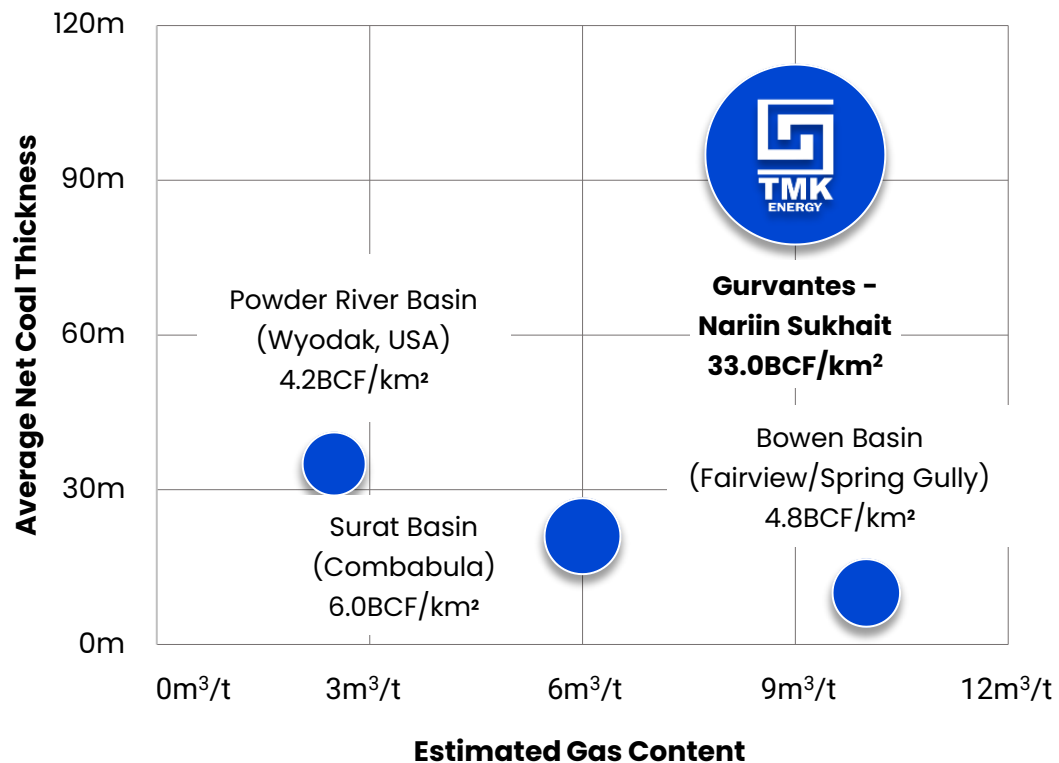
Funding secured to demonstrate commerciality in 1H 2025



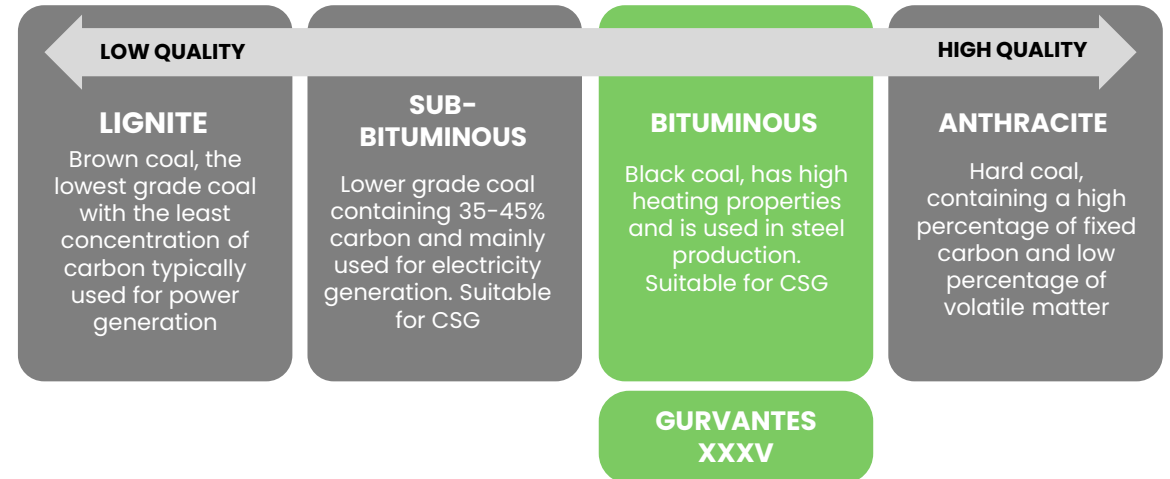
# COAL SEAM FIELD COMPARISON

Gurvantes XXXV represents a world class coal seam gas project, comparing favourably to existing world-leading CSG basins

## GENERAL ASSESSMENT OF CSG PROJECT PARAMETERS & OGIP RESOURCE DENSITY



## COAL QUALITY AND RANK



- Based on net coal thickness, gas content, and estimated OGIP resource density, the Gurvantes XXXV prospect compares very favourably to leading CSG fields worldwide
- The Gurvantes XXXV Project represents a potential world class discovery with technical parameters equal to or better than existing CSG fields worldwide
- The results point to relatively simple and low cost development, high operating margin
- Limited surface constraints, supportive jurisdiction for developing natural gas

# MAIDEN CONTINGENT RESOURCE

## Maiden Resource of 1.2 TCF (2C) is the largest Contingent Natural Gas Resource in Mongolia



Largest CSG Contingent (2C) Resource in Mongolia of 1.2 TCF

Resource delivered in 9 months based on 5 drill locations at cost of ~US\$1.5m

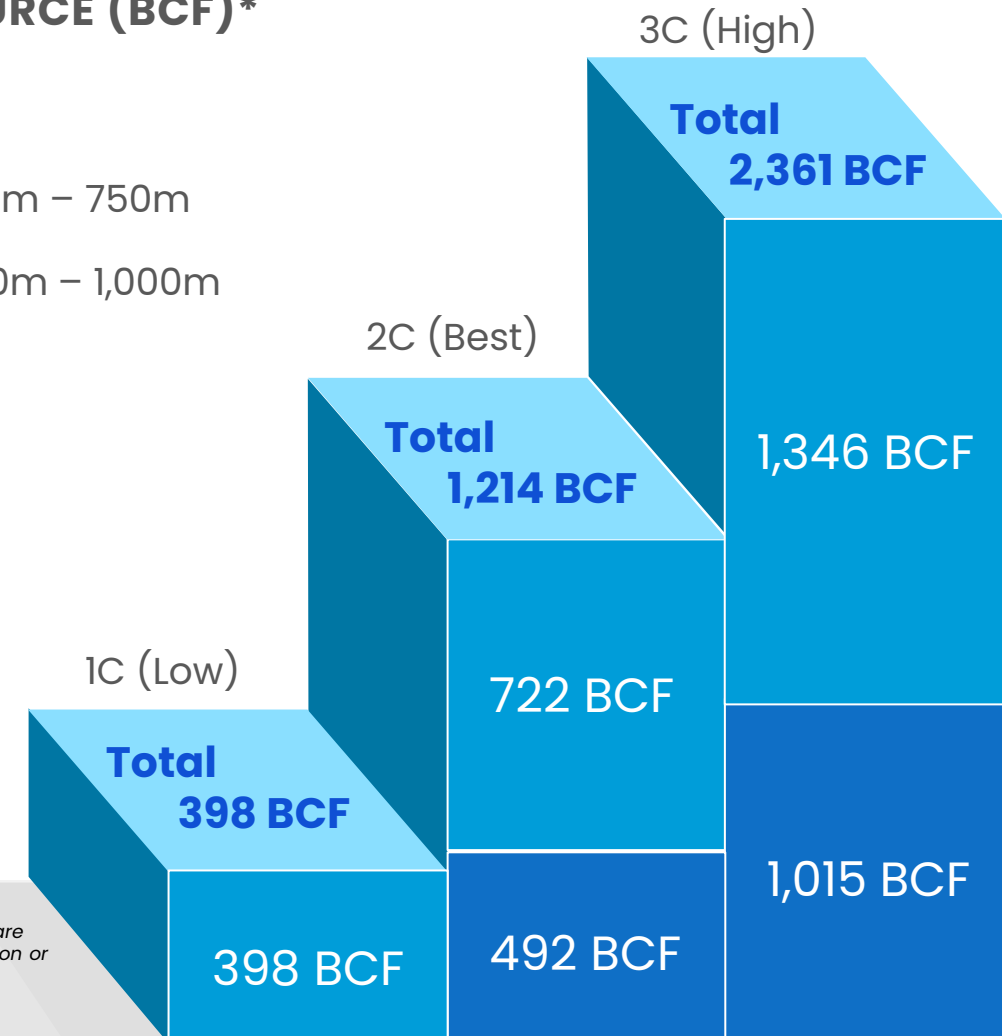
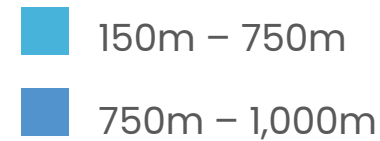
1.2 TCF Contingent Resource from only 60km<sup>2</sup> which is less than 1% of the total Project area

Very high recoverable resource (2C) concentration 20 BCF/km<sup>2</sup> which suggests low extraction costs and high operating margins

1.2 TCF (~1,280PJ) of gas represents just under 34 billion cubic metres, less than 10% of China's annual consumption

Additional Prospective Resource 2U (risked) of 5.3 TCF within total project area

### NARIIN SUKHAIT REGION UNRISKED GROSS CONTINGENT GAS RESOURCE (BCF)\*



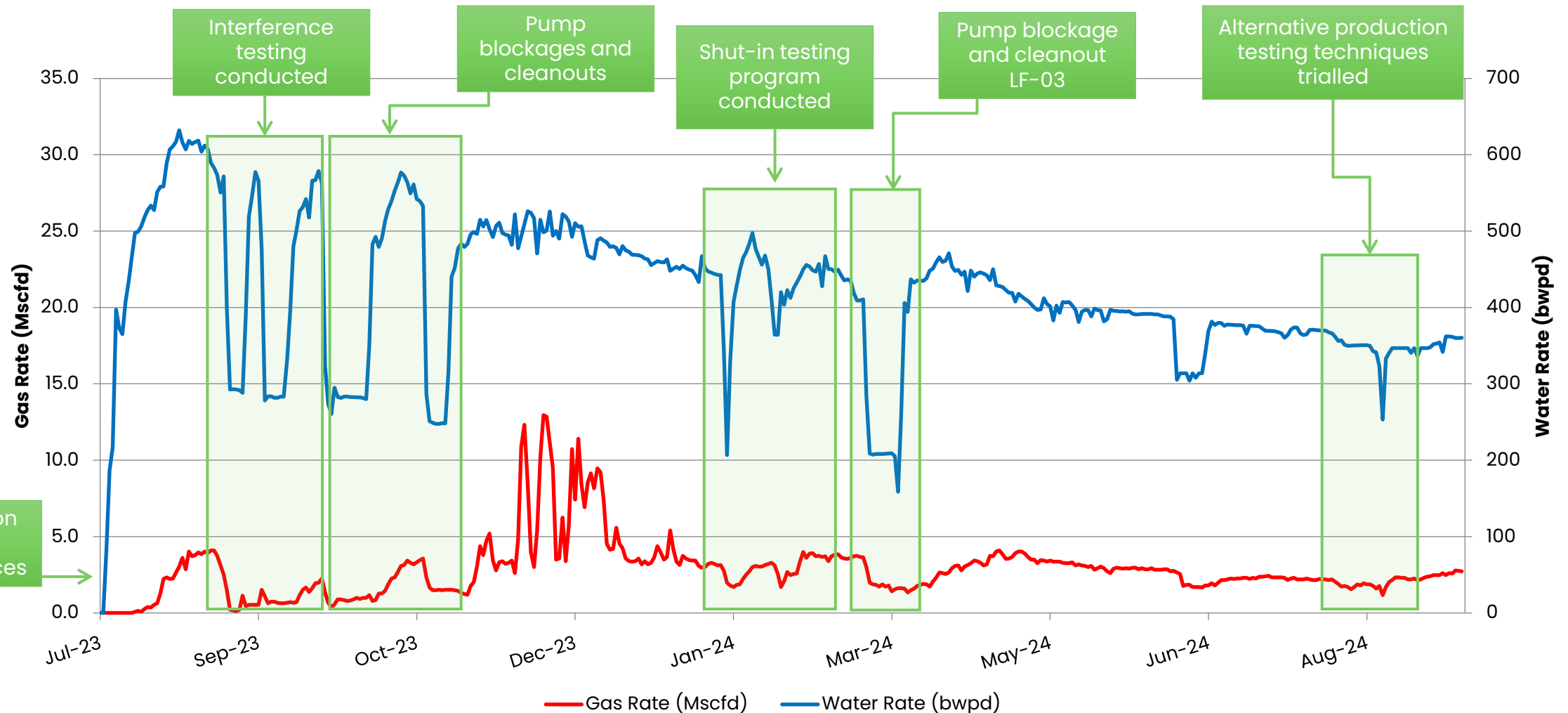
\*Cautionary Statement: The estimated quantities of petroleum that may be potentially recovered by the application of a future development project relate to undiscovered accumulations. These estimates have both an associated risk of discovery and a risk of development. Further exploration, appraisal and evaluation are required to determine the existence of a significant quantity of potentially moveable hydrocarbons. The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcement and that all the material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. Resource estimates presented here for the Gurvantes XXXV Project were initially disclosed in ASX announcement "1.2TCF Contingent Gas Resource (2C) Independently Certified" dated 9 November 2022.

# LUCKY FOX PILOT WELL FIELD PRODUCTION

Continuous gas flows to surface for > 12 months



## Lucky Fox Pilot Production



# PATHWAY TO GAS PRODUCTION

## Depressurising reservoir

Significant progress towards targeted pressure reduction, allowing higher volumes of gas to commence flowing. Good Projects take time.

## Water production rates indicative of good permeability

Peak rate of ~650 bwpd (combined)

## Early gas flows

Continuously flaring gas and lowering water production rates.

2023

### PILOT WELL PROGRAM PHASE 1

Initial pilot production wells drilled successfully and reliably operating for 9 months

Positive results proving good permeability and ability of reservoir to produce gas

Additional wells required to accelerate depressurisation of the reservoir

2024

### PILOT WELL PROGRAM PHASE 2

Reach critical desorption pressure quicker to accelerate gas production

Drill an additional three infill pilot production wells within core area

Gather additional data through new technologies to better understand reservoir properties

Commence feasibility studies and detailed planning for 2025 program

2025

### PROJECT DEVELOPMENT PLAN

Drill additional step-out production wells around the Lucky Fox Pilot Well complex

Updated Resource and Maiden Reserves Certification

Early commercialisation through local power generation

Additional exploration to further expand and grow the Resource

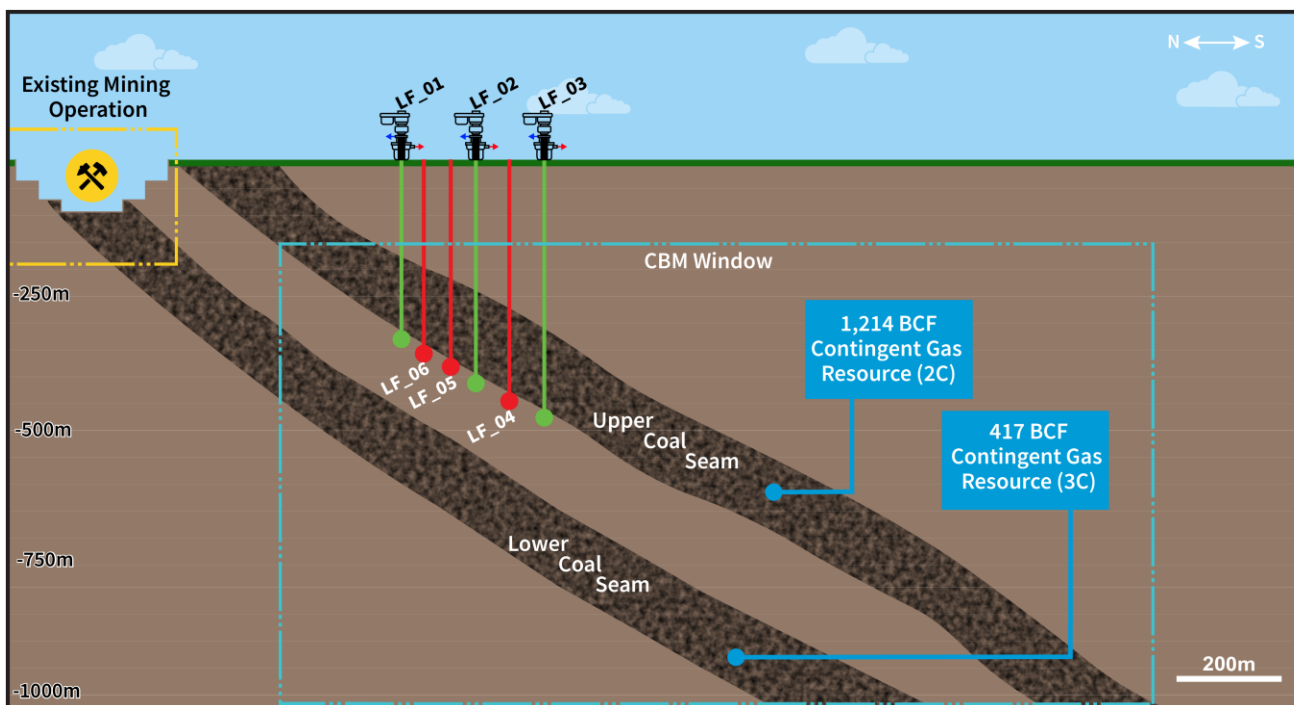
Source strategic partnerships and/or funding solutions for rapid production growth



# PILOT WELL PROGRAM – PHASE 2

Accelerate reservoir depressurisation to support existing pilot wells

PRODUCTION WELL	LF-4	LF-5	LF-6
TOTAL DEPTH	503m	480m	475m
NET COAL THICKNESS	~60m	~60m	~60m
DATE DRILLED	November 2024	October 2024	October 2024
PRODUCTION INTERVAL DEPTH	300m – 450m	270m – 420m	270m – 423m



Illustrative representation of the Lucky Fox Pilot Well Program with respect to the upper and lower coal seams.

- ✓ Secure relevant approvals for drilling
- ✓ Pilot well program design and planning
- ✓ Tender drilling contract
- ✓ Procurement of long lead items
- ✓ Award drilling contract
- ✓ Secure funding to progress pilot well program
- ✓ Drill and complete three additional pilot well drilling (LF-04, 05 and 06)
- Commission new wells
- Commence reservoir data gathering
- Drawdown fluid to optimal production levels
- Reach critical desorption pressure and increase gas rates to commercial levels

# CONCEPTUAL FIELD DEVELOPMENT (2025-2026)

Indicative staged approach to field development to grow reserves and production



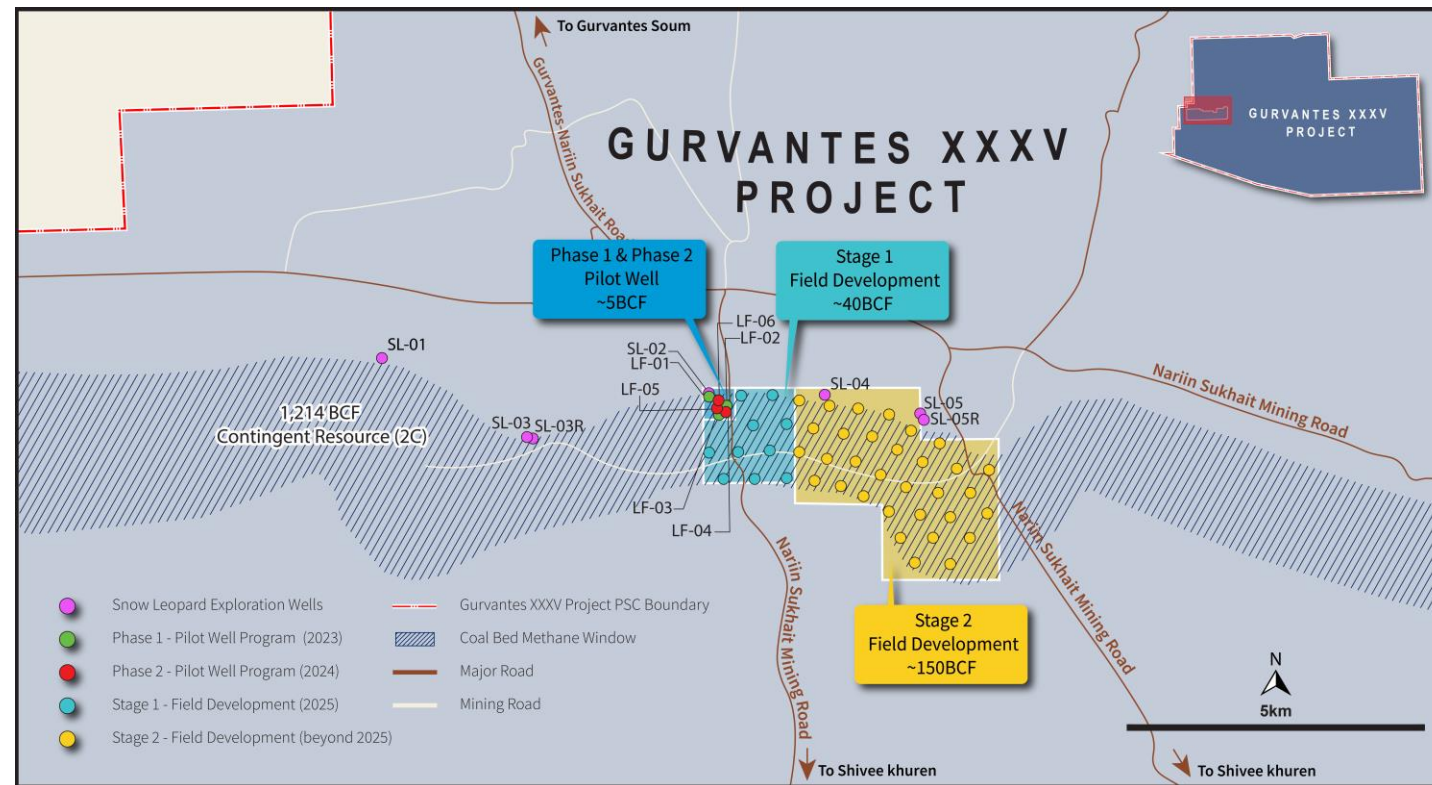
## Stage 1 (2025)

- 10 production wells spaced 500 metres apart accessing ~40 BCF
- Average capital cost of US\$500,000 per well
- Indicative rates averaging between 250–500 mcf/day
- Initial commercialisation through local power generation to adjacent mines



## Stage 2 (2026)

- 30 production wells
- Average full cost of US\$400,000 per well with synergies
- Larger scale gas production supports small scale gas developments including CNG and mini-LNG for local markets



	Wells	BCF	Indicative Total Rate*	Total Well Cost (US\$)	Indicative Revenue per annum (US\$)**
Stage 1	10	40	2.5–5 TJ/day	~\$5MM	~\$4.5MM–\$9MM
Stage 2	30	150	7.5–15 TJ/day	~\$12MM	~\$14MM–\$28MM

# DOMESTIC SUPPLY OPPORTUNITY

## Significant opportunity exists for TMK to cement itself as a key supplier of gas and energy to Mongolia



The capital of Mongolia, Ulaanbaatar, is heavily polluted and in 2022, Mongolia had an average Particle Matter (PM) of 2.5 concentration – 5.9 times the WHO annual air quality guideline value.

Over the past 30 years Mongolia has transformed into a vibrant democracy, tripling its GDP per capita since 1991.\*

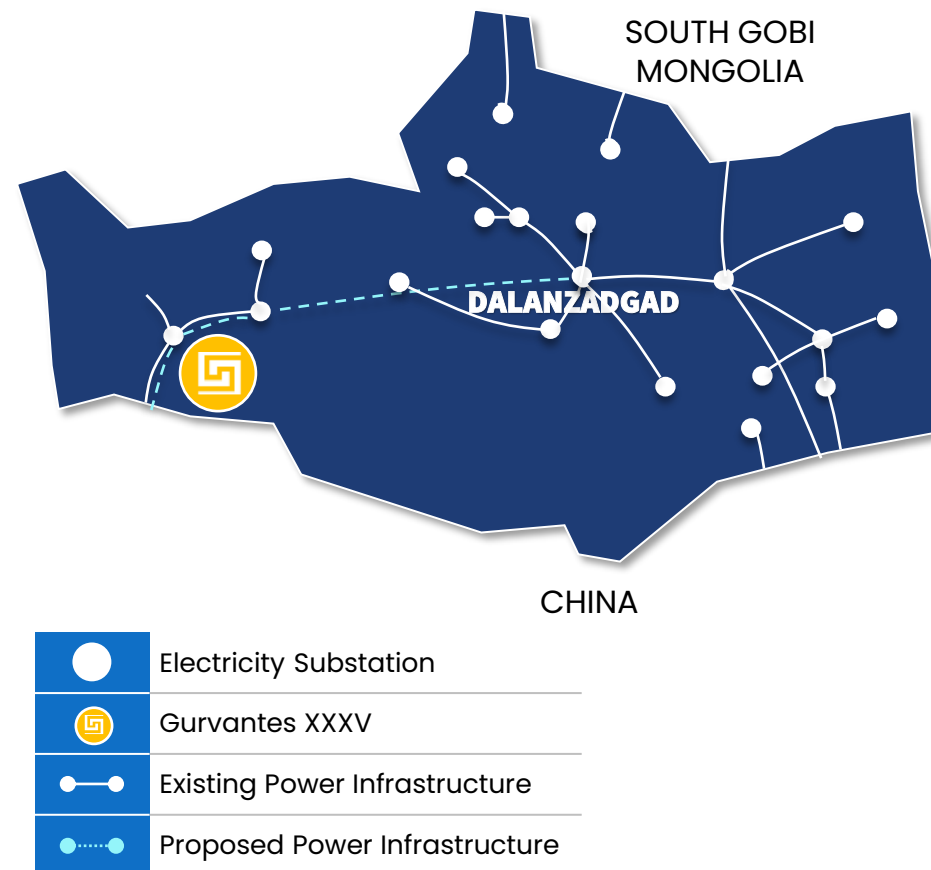
Significant push to decarbonise Mongolia's energy sector, with political desire to seeking greener forms of energy generation.

Mongolia currently has no gas production, importing all gas products resulting in significant issues around energy security and reliability, while leaving huge growth potential for local production.

Strong political desire to develop the natural gas industry to reduce pollution and address energy security, reliability, and independence.

Mining accounts for 40% of Mongolia's energy consumption.

### SOUTH GOBI PROVINCE ENERGY INFRASTRUCTURE



\* <https://www.worldbank.org/en/country/mongolia/overview>

# CHINA SUPPLY OPPORTUNITY

China is the largest energy user globally with significant gas infrastructure in close proximity to Gurvantes XXXV



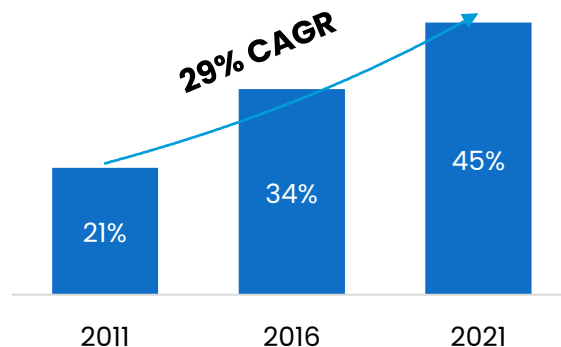
## Chinese Energy Market

Chinese 2020 gas demand estimated to double by 2040\*

Forecast Chinese consumption 2040 between 497bcm and 655bcm\*\*.

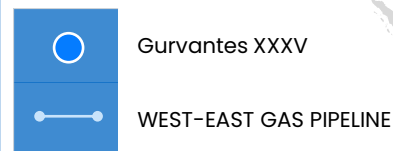
Supply deficit of between 56bcm and 214bcm to be filled by LNG imports and additional pipeline volumes (Mongolia?)

### DOMESTIC CONSUMPTION OF IMPORTED GAS



## Neighbouring Oil & Gas Infrastructure

Gurvantes XXXV is less than 20km from Chinese boarder and close to existing gas infrastructure in northern China



Mongolian gas has a significant cost advantage over current suppliers to China due to low production and delivery costs



## Developing Relationships in China

Discussions continuing with leading energy offtake partners in both China and Mongolia with the aim of expediting project development



TMK's Board and Management developing strategic relationships with key operators in the downstream energy market in Mongolia and China



# OPERATING IN MONGOLIA

A proven & growing mining jurisdiction with under-explored terrains



## Low Labour Costs

Mongolia has a relatively low labour cost compared to other countries, making it an attractive destination for mining companies looking to reduce costs

## Stable Political Environment

Democratic government that is supportive of foreign investment, haven taken key steps to improve infrastructure, building new roads, power plants, and railways, to facilitate the development of the mining sector

## Strong Mining Jurisdiction

Mining sector leading 90% of exports and the country's largest employer



## China's Strategy

Mongolia is critical to China's Belt & Road Initiative, connecting Asia with Africa and Europe, improving regional integration, increasing trade and stimulating economic growth

## New Revival Policy

Mongolia's Post Pandemic policy seeks to be Investor friendly, open borders for trade & travel, increase rail infrastructure , and grow as a technology hub.

## Stable Economic Profile

Strong economic growth is forecast to continue in a fast-growing economy



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# ADDITIONAL TECHNICAL INFORMATION



# EXPLORATION DRILLING RESULTS (Completed 2022)

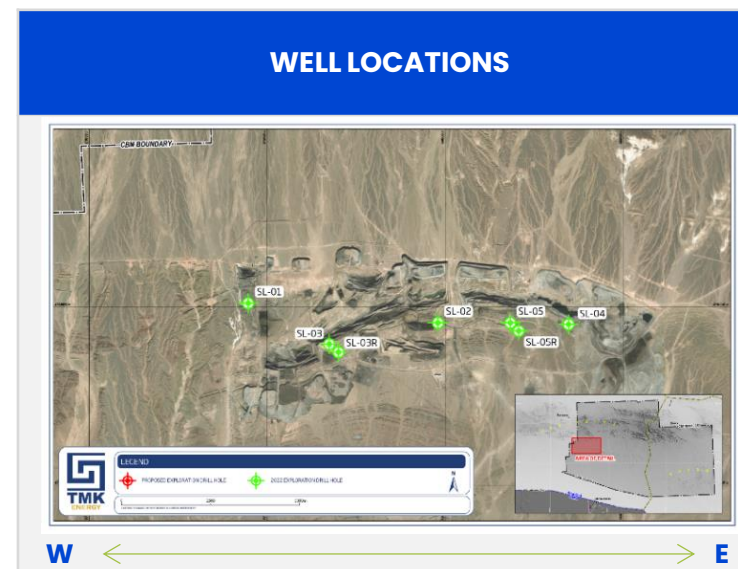
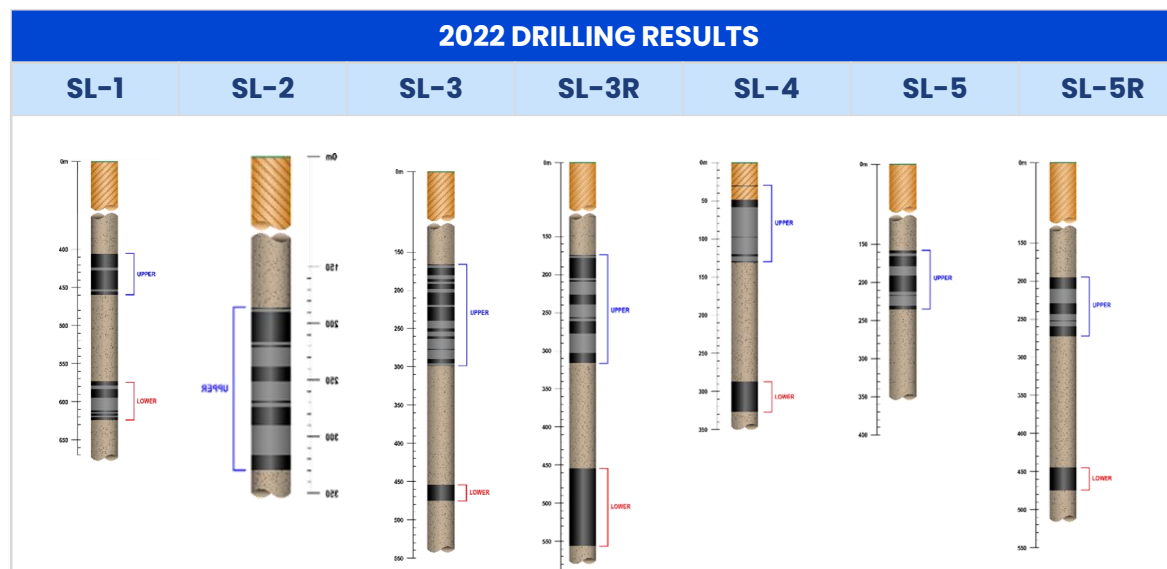
All seven maiden exploration wells show significant CSG prospectivity with 100% success rate

COAL RANK QUALITY
COAL THICKNESS
GAS CONTENT (AR)
GAS COMPOSITION (CH <sub>4</sub> )
PERMEABILITY

High Quality Bituminous						
60m	91m	60m	175m	40m	40m	59m
13.2m <sup>3</sup> /t	9.3m <sup>3</sup> /t	9.8m <sup>3</sup> /t	7.5-12.5m <sup>3</sup> /t	5-7.5m <sup>3</sup> /t	5-7.5m <sup>3</sup> /t	5-7.5m <sup>3</sup> /t
96%	97%	95%	92%	98%	97%	99%
0.1mD	47mD	20mD	-	0.13mD	-	56mD

✓	Ideal rank and quality for CSG project
✓	Very thick coal (thicker than any major developed CSG Project) results in higher resource concentration
✓	High gas content and gas saturation associated with high productivity
✓	Suitable for use without processing. Low CO <sub>2</sub> , cleaner energy source relative to current energy supply in Mongolia.
✓	High permeability is associated with high production and recovery from unstimulated production wells

OBJECTIVE
GEOLOGY





# PILOT WELL PROGRAM – Phase 1 (Completed 2023)

All three pilot wells drilled on time and under budget



PRODUCTION WELL
TOTAL DEPTH
NET COAL THICKNESS
DATE DRILLED
PRODUCTION INTERVAL DEPTH

LF-1	LF-2	LF-3
375m	407m	515m
61m	62m	68m
April 2023	May 2023	May 2023
184m – 314m	245m – 393m	316m – 470m

